



**Third United Nations
International Conference
on the Peaceful Uses
of Atomic Energy**

A/CONF.28/A/533
GERMANY, FEDERAL
REPUBLIC OF

February 1964

Original: ENGLISH

Confidential until official release during Conference

Abstract

The SEFOR Reactor
- Aspects of International Collaboration -

by

W. Schnurr¹ and J.R. Welsch²

The Southwestern Experimental Fast Oxide Reactor, a sodium-cooled, plutonium-fueled experimental fast oxide reactor with a thermal power of 20 MW, is under construction at Fayette-Ville, Arkansas, USA. It is being built by the General Electric Atomic Power Equipment Department for the Southwest Energy Associates, a considerable contribution to the financing being made by the Gesellschaft für Kernforschung m.b.H., Karlsruhe³. The purpose of this reactor is the demonstration of the reliable operating characteristics and inherent safety features of a large, plutonium-uranium-fueled fast reactor. A large research and development programme will be performed in this facility. Sponsored by the Atomic Energy Commission, it will be carried out by General Electric under subcontract to Southwest Atomic Energy Associates.

¹Kernforschungszentrum Karlsruhe, Germany

²Southwest Atomic Energy Associates of Little Rock, Arkansas, USA

³The Karlsruhe fast breeder development project is carried out in the frame-work of an association with Euratom.

The main incentives for this extensive cooperative effort were the following:

The Karlsruhe Center has an active programme in the field of the fast power breeder development and had already in 1960 envisaged the construction of a fast dynamical test reactor.

Southwest Atomic Energy Associates, a group of 17 utilities serving the South of the USA, has sponsored nuclear energy development for a long time. In view of the growing interest in fast power breeder reactors, they have decided to support the development of this reactor type.

The General Electric Atomic Power Equipment Department - like the Karlsruhe Center - had realized the vital importance of a programme and carried out a design study which was first presented at the 1961 IAEA Conference at Vienna.

In the years 1961 to 1963 a series of negotiations between the above partners, the US AEC and the Euratom Commission were carried out which finally led to an agreement covering the construction of the reactor and the performance of the research and development programme.

In view of the different interests of the participating groups and of the fact that SEFOR is the first reactor to be built within the USA with substantial support from a non-US group, the negotiating partners were faced with difficult problems and many new solutions had to be found.

After a detailed discussion of the above mentioned technical and scientific incentives and a review of the historical development of the project, the paper will describe the legal relations among the various partners. It further covers the problems of financing and the organisation which was created in order to guarantee to all partners the necessary influence and control. Finally the question of the use of the obtained information and patents and the exchange of personnel and knowledge will be discussed, with special consideration to existing international agreements.